

TSI (Triple Sugar Iron) Agar



Medium used for the identification and determination of Enterobacteriaceae and Vibrio spp. on the basis of carbohydrate fermentation and hydrogen sulfide (H₂S) production.

*Equally use with MFDS (MB-T1055K) and NIER (MB-T1055N).

• CONTENTS (Liter)

Beef Extract	3.0 g
Yeast Extract	3.0 g
Peptone	20.0 g
Lactose	10.0 g
Sucrose	10.0 g
Dextrose	1.0 g
Ferrous Sulfate	0.2 g
Sodium Chloride	5.0 g
Sodium Thiosulfate	0.3 g
Phenol Red	0.24 g
Agar	13.0 g

Final pH = 7.4 ± 0.2 at 25°C

• PROCEDURE

Suspend 65.74 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into tubes. Arrange tubes in a slanted position.

• INTERPRETATION

TSI (Triple Sugar Iron) Agar is a differential medium used the identification and determination of Enterobacteriaceae and Vibrio spp. on the basis of carbohydrate fermentation and hydrogen sulfide (H₂S) production. Beef extract, yeast extract and peptone provide nitrogen, carbon, vitamins and minerals. Lactose, sucrose and dextrose are sources of fermentable carbohydrates. Ferrous sulfate and sodium thiosulfate are the compounds of H₂S indicator system. Sodium chloride maintains the osmotic balance. Phenol red is a pH indicator. Agar is the solidifying agent.

• TECHNIC

Inoculate the specimen using a sterile needle to the medium. Incubate at 35 - 37 °C for 18 - 24 hours. Slightly loosen the caps. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: pink

Prepared medium

Appearance: slightly precipitate

Color: orange-red

Incubation conditions: 35 - 37°C / 18 - 24 hours / loosen the caps

Microorganism	ATCC	Growth	Slant	Butt	Gas	H ₂ S
<i>Escherichia coli</i>	25922	good	acid	acid	+	-
<i>Pseudomonas aeruginosa</i>	27853	good	alkaline	alkaline	-	-
<i>Salmonella typhimurium</i>	14028	good	alkaline	acid	+	+
<i>Shigella flexneri</i>	12022	good	alkaline	acid	-	-
<i>Vibrio parahaemolyticus</i>	17802	good	alkaline	acid	-	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the. Store prepared medium at 2 - 8°C.

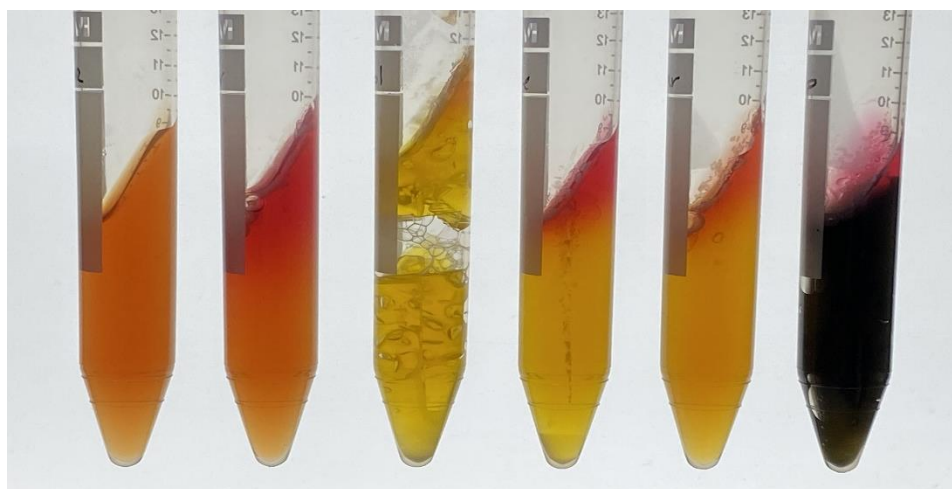
• REFERENCES

1. Russell, F.F. (1911). J. Med. Res. 25: 217.
2. Association of Official Analytical Chemists. (1995). Official methods of analysis of AOAC International, 16th ed.
3. US Pharmacopoeia 24, NF 19 (2000).
4. Refer to the MFDS, NIER.

• PACKAGE

Cat. No : MB-T1055 TSI (Triple Sugar Iron) Agar	500 G
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• MICROBIAL CULTURE IMAGES



None

*Pseudomonas
aeruginosa*
ATCC 27853

E.coli
ATCC
25922

*Shigella
flexneri*
ATCC12022

*Vibrio
parahaemolyticus*
ATCC12022

*Salmonella
typhimurium*
ATCC 14028

Incubation conditions : 35 - 37°C / 18 - 24 hours / loosen the caps